

Work Order ID 146054

Friday, May 06, 2016 8:58:23 AM

146054

Page 1

Item ID: D4022-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Fuel Transfer Pump Assy

Start Date: 5/20/2016 Start Qty: 2.00

2

Cust Item ID:

Required Date: 5/24/2016 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: dmDate: 16/05/09

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4022	C								

100

0.00

100

Small Fab

Memo

0.36

Small Fab

Assemble as per dwg D4022

Metal set A4 batch:

O-ring Lub as per dwg batch: M1143902FF

MAY 18 2016

110

QC5- Inspect part completeness to step on W/O

0.00

110

QC

Memo

0.04

Quality Control

(2)DAS
38
9-88

MAY 19 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 146054

Friday, May 06, 2016 8:58:24 AM

146054

Page 2

Item ID: D4022-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fuel Transfer Pump Assy

Start Date: 5/20/2016 Start Qty: 2.00

2

Cust Item ID:

Required Date: 5/24/2016 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Identify as per dwg & Stock Location: <u>51245</u>	0.00							
120									
Packaging	Memo	0.02							
Packaging									
130	QC21- Final Inspection - Work Order Release	0.00							
130									
QC	Memo	0.20							
Quality Control									

DAS
8
909

MAY 24 2016

2

16/5/24 JF

MCS MAY 24 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Friday, May 06, 2016 8:58:23 AM

Page 1

Work Order ID: 146054

146054

Parent Item: D4022-041

D4022-041

Parent Item Name: Fuel Transfer Pump Assy

Start Date: 5/20/2016

Required Date: 5/24/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP rev A 10.02.02 new issue Prelim EC verified by:DD IPP Rev:B
10.05.17 as per ECN10-562 DD verf:EC IPP REV:C 11.11.22
PER ECN11-665 DD VERF:EC IPP REV:D 12.02.08 replace
AN818-6D for AN815-6D DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4022-1		Manufactured	No			100	Each	3.0000	1	2			
D4022-1									**				
Fuel Transfer Pump													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST245				3					
				122412				2		2			
				122770				1					
D4022-5		Manufactured	No			100	Each	10.0000	1	2			
D4022-5									**				
Thermal Switch													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST072				10					
				107265				10		2			
AN815-6D		Purchased	No			100	Each	23.0000	2	4			
AN815-6D									**				
Union-M-Flare													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				CCK007				10					
				m134509				10					
				ST326				13					
				m132680				13		4			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER :							
Misidentified ☐	☐	Past Due								

Picklist Print

Friday, May 06, 2016 8:58:23 AM

Page 2

Work Order ID: 146054

146054

Parent Item: D4022-041

D4022-041

Parent Item Name: Fuel Transfer Pump Assy

Start Date: 5/20/2016

Required Date: 5/24/2016

Start Qty: 2.00

Required Qty: 2.00

MS29512-06

Purchased

No

100

Each

34.0000

2

4

MS29512-06

MAY 19 2016

O-RING

Location

Loc Qty

Loc Code

ST274

34

m132617

13

m132680

1

m134537

20

4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

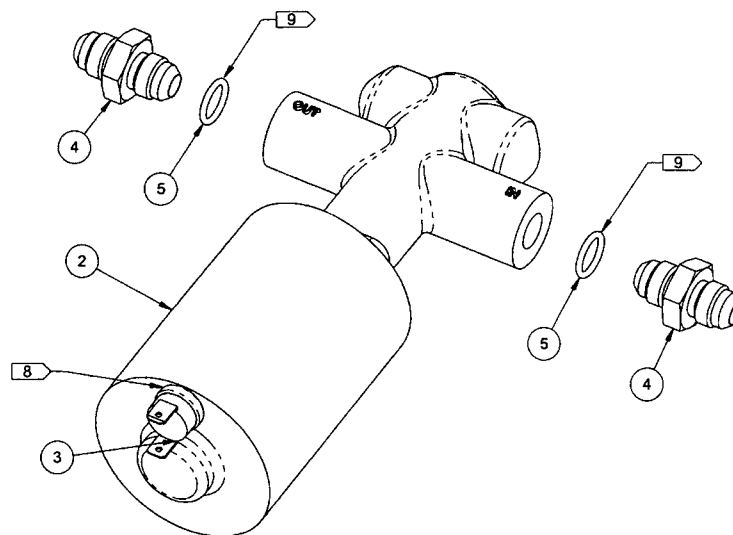
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____				
Misidentified ☐	☐	Past Due ☐					

ITEM NO.	QTY. -041	PART NUMBER	DESCRIPTION	JOHN CAMERON AVIATION PART NUMBER
1	X	D4022-041	FUEL TRANSFER PUMP ASSEMBLY	A8150-B1-JCA
2	1	D4022-1	FUEL TRANSFER PUMP	
3	1	D4022-5	THERMAL SWITCH	
4	2	AN815-8D	FITTING, UNION	
5	2	MS29512-06	O RING	



D4022-041 FUEL TRANSFER PUMP ASSEMBLY

2012-03-02

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 2.61 lbs
- 8) ATTACH D4022-5 THERMAL SWITCH TO D4022-1 FUEL PUMP IN LOCATION SHOWN USING METALSET A4
- 9) LUBRICATE O-RING WITH ULTRACHEM ASSEMBLY FLUID #1, FUEL-LUBE, MOLYKOTE 55 O-RING GREASE OR EQUIVALENT

C	CORRECTED TYPO: AN815-8D WAS AN818-8D, ZN D7-1. CORRECTED SPELLING OF "AEROSPARES", ZN B5-3.	DC	12.02.09
B	CORRECTED SPELLING OF "AEROSPARES". REF CAR 11-50.	DC	11.09.28
A	NEW ISSUE	HS	10.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	12.02.09		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D4022** REV. C
SHEET 1 OF 4
TITLE **FUEL PUMP** SCALE NTS

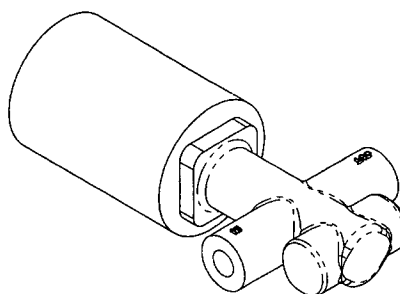
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w/o 146054

2m 16/05/09

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4022-1	REF JCA/M47/D3/SHT 13

SPECIFICATION CONTROL DRAWING



DART PART NUMBER	SUPPLIER	SUPPLIER PART NUMBER	OPERATING VOLTAGE	FLOW (GPH)	OUTPUT PRESSURE (PSI)	TEMPERATURE RANGE
D4022-1	WELDON	A8150-B1	24 VDC	35 - 50	5 - 25	-65°F TO +185°F
	AEROSPARES ACCESSORIES	A8150-B1	24 VDC	35 - 50	5 - 25	-65°F TO +185°F

D4022-X FUEL TRANSFER PUMP

RELEASED
2012-03-22
JMP

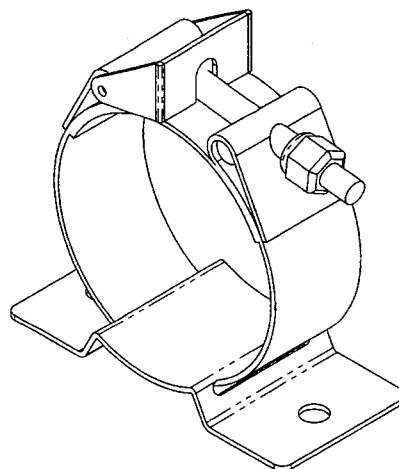
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 2.6 lbs

DESIGN		DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	SC	DRAWING NO.	REV. C
MFG. APPR.		D4022	SHEET 2 OF 4
APPROVED	169	TITLE	SCALE
DE APPR.	HA	FUEL PUMP	NTS
DATE	12.02.09	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4022-3	REF JCA/M47/D3/SHT 13

SPECIFICATION CONTROL DRAWING



DART PART NUMBER	POSSIBLE SUPPLIER	SUPPLIER PART NUMBER	MATERIAL	FITS MOTOR SIZE (Ø)
D4022-3	WELDON	TC 250-100	STAINLESS STEEL	2.5
	AIRCRAFT SPRUCE AND SPECIALTY	05-00021	STAINLESS STEEL	2.5
	AEROSPARES ACCESSORIES	TC 250-100	STAINLESS STEEL	2.5



D4022-X FUEL PUMP MOUNTING BRACKET

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A

DESIGN	<i>BC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>BC</i>		
CHECKED	<i>BC</i>	DRAWING NO.	REV. C
MFG. APPR.		D4022	SHEET 3 OF 4
APPROVED	<i>140</i>	TITLE	SCALE
DE APPR.	<i>140</i>	FUEL PUMP	NTS
DATE	12.02.09	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

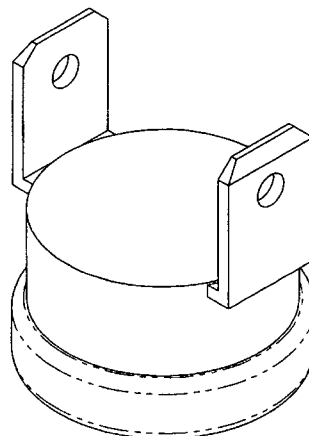
DART AEROSPACE
PART NUMBER

D4022-5

JOHN CAMERON AVIATION
PART NUMBER

REF JCA/M47/D3/SHT 13

SPECIFICATION CONTROL DRAWING



DART PART NUMBER	POSSIBLE SUPPLIER	SUPPLIER PART NUMBER	ALTERNATE PART NUMBER	TEMPERATURE WHEN SWITCH OPENS
D4022-5	FARNELL	1006847	3775628	125°F
	HONEST-WELL	T23A125BSR2-15	3775628	125°F
	NEWARK	98K1992	3775628	125°F

D4022-X THERMAL SWITCH

2012-03-02
WP

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) SPECIFICATION: N/A

DESIGN	DC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	DC	DRAWING NO. D4022	REV. C
MFG. APPR.		SHEET 4 OF 4	
APPROVED	WP	TITLE FUEL PUMP	SCALE NTS
DE APPR.		COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	12.02.09		